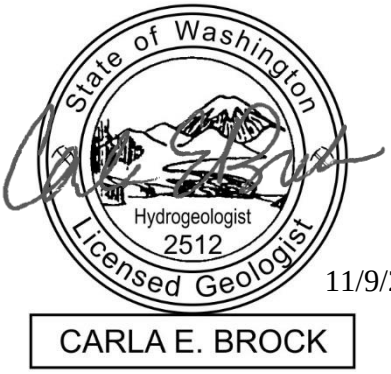
MEMORANDUM

Project No.: 150074

November 9, 2018

To: **Andrew Smith, PE, LHG**
UST/Technical Services Unit Supervisor, Toxic Cleanup Program
Washington State Department of Ecology, Southwest Regional Office

cc: Craig Gregory, City of Shelton



From: **Carla E. Brock, LHG**
Associate Geologist
cbrock@aspectconsulting.com

John J. Strunk, LG
Principal Geologist
jstrunk@aspectconsulting.com

Re: **Shelton C Street Landfill –** Remedial Investigation Work Plan Addendum and Feasibility Study Approach

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Aspect Consulting, LLC (Aspect) has prepared this Addendum to the Final Remedial Investigation Work Plan (Final RI Work Plan) to present the scope of work for additional Remedial Investigation (RI) activities at the Shelton C Street Landfill. The Final RI Work Plan, dated April 21, 2017, was prepared by Aspect and approved by Ecology. The work described in this RI Work Plan Addendum has been developed based on the collection of initial RI data and discussions with Ecology during an April 17, 2018 meeting. The work is being conducted to meet the requirements of Agreed Order No. DE 12929 (AO) between the City of Shelton (City) and the Washington State Department of Ecology (Ecology).

This RI Work Plan Addendum proposes additional RI field activities to meet the following objectives:

- Evaluate seasonal variations in groundwater quality over three more quarters of groundwater monitoring and sampling at previously installed monitoring wells with a revised analytical approach based on the results of RI work already completed.
- Determine whether landfill gas (LFG) is being generated at levels that warrant installation and monitoring of permanent LFG monitoring probes.

- If LFG is being generated at levels that warrant installation of permanent LFG monitoring probes, evaluate preliminary LFG data to identify appropriate locations for the installation of permanent monitoring probes.

The initial RI field program included performance of a geophysical survey, collection and laboratory analysis of surface soil in an area where sewage treatment-plant sludge was reportedly disposed of (referred to as the Surface Characterization), and installation and sampling of groundwater monitoring wells.

This RI Work Plan Addendum provides a summary of the results of the initial RI field program as the basis for the scope of work described herein. The sections below provide the RI scope of work for ongoing groundwater monitoring and sampling, a scope of work for completing a preliminary LFG evaluation, and the evaluation criteria for determining the need for, and locations of, permanent LFG monitoring probes. Additionally, the AO defines the schedule for completion of regulatory requirements for the Shelton C Street Landfill. The schedule requires submittal of the draft Feasibility Study (FS) to Ecology within 120 days of Ecology approval of the draft RI Report. This Addendum provides a revised deliverable schedule, to provide for preparation of the draft FS concurrently with preparation of the draft RI Report.

Groundwater Monitoring and Sampling

Four groundwater monitoring wells were installed and developed, in accordance with the Final RI Work Plan, in December 2017. The initial RI field program, as scoped in the Final RI Work Plan, includes four quarterly groundwater monitoring and sampling events. The first sampling event was completed on January 12, 2018 and included collection of groundwater samples for all the preliminary contaminants of potential concern (COPCs). The Final RI Work Plan provided for potential elimination of preliminary COPC groups from subsequent groundwater sampling events based on the results of the Surface Characterization and the first groundwater sampling event. The validated groundwater data from the January 2018 sampling event is summarized on Tables 1 through 4.

The preliminary COPCs detected in groundwater during the January 2018 sampling event consist of diesel-range total petroleum hydrocarbons (TPH), metals, non-carcinogenic polycyclic aromatic hydrocarbons (ncPAHs) and dioxins/furans. Of these, the only analytes detected at concentrations above the proposed Site Screening Levels[1] (Site SLs) are arsenic, iron and manganese. In addition, concentrations of carcinogenic PAHs and metals (barium, copper, lead, mercury, selenium, silver and zinc) were detected above the Site SLs in surface soil (Attachment A). Based on these collective data, the proposed analytical approach for the next three groundwater monitoring and sampling events consists of the following:

- Diesel-range TPH by Northwest Method NWTPH-Dx
- Metals (total and dissolved) by US Environmental Protection Agency (EPA) Methods 200.8/1631E
- PAHs (both carcinogenic and non-carcinogenic) by EPA Method 8270D SIM

[1] The proposed Site Screening Levels were developed in the Final RI Work Plan to evaluate the data collected during the RI.

- Dioxins/Furans by EPA Method 1613

Additionally, groundwater samples will continue to be collected for field parameter testing and laboratory analysis of geochemical parameters, as described in the Final RI Work Plan.

Landfill Gas Investigation

The LFG investigation will evaluate the presence, nature, and extent of LFG and COPCs in soil vapor surrounding the landfill waste. In accordance with the Final RI Work Plan, a multigas meter was used to monitor methane, carbon dioxide, oxygen, and hydrogen sulfide during drilling for installation of the groundwater monitoring wells. The data is summarized on Table 3.

LFG generation is dependent on several factors including the volume of waste, the age of the landfill and the type of waste. The C Street Landfill began accepting waste over 90 years ago and much of the organic waste was either burned or incinerated. The landfill also accepted industrial waste which is low in organic content and would not be a good source for methane production. The C Street Landfill appears to be at a late stage in terms of methane production which is supported by no methane detected during the monitoring well drilling program and oxygen and carbon dioxide levels that resemble atmospheric conditions. In addition, groundwater has a neutral pH, is aerobic and doesn't contain typical volatile organic compounds associated with LFG. This information supports that LFG generation does not appear to be a dominant process at the landfill.

Because this preliminary data evaluation suggests that LFG is not being generated, an initial soil gas survey will be conducted to determine whether the installation and monitoring of permanent LFG monitoring probes is warranted. The scope of work for the initial soil gas survey is provided below. Based on the results of the initial soil gas survey,

Initial Soil Gas Survey

The objectives of the initial soil gas survey are to: 1) evaluate if LFG is being generated and, if so, to identify locations and construction details for installation of permanent LFG monitoring probes; and, 2) to evaluate soil gas for the presence of volatile COPCs.

The initial soil gas survey will consist of drilling five temporary borings within the footprint of the landfill waste, using direct push drilling methods, to a total depth of 20 feet below ground surface (bgs). Once the total depth has been reached, the probe rods will be retracted to expose a 3-foot, stainless steel screen point. LFG and soil vapor samples will be collected from each boring at the time of drilling, in general accordance with the sampling procedures described in Section A.2.4.2 of the Final RI Work Plan. In addition to the field measurement of methane using a GEM 5000 portable gas meter, a sample will be collected for laboratory analysis of methane by EPA Method 3C. The proposed gas monitoring locations are depicted on Figure 1.

Soil gas data for volatile COPCs will be compared to the proposed Site SLs for soil vapor, which will be revised and updated based on updates to regulatory guidance since finalization of the Final RI Work Plan in April 2017. Although there is not a complete exposure pathway for vapor intrusion, the results of the soil gas sampling will be compared to the MTCA Method B and C deep soil gas screening levels and evaluated in accordance with the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action to evaluate potential risk under future land use scenarios.

The results of the LFG monitoring and sampling will be evaluated to determine whether the installation and sampling of permanent LFG monitoring probes is warranted. If methane concentrations are less than 5 percent by volume, which is a criterion for explosive gas control provided in WAC 173-351, then permanent LFG monitoring probes are not warranted.

Landfill Gas Probe Installation and Sampling

If the results of the initial soil gas survey indicate that permanent LFG monitoring probes are warranted, then probe pairs will be installed in accordance with the scope of work described in the Final RI Work Plan. An estimated total of five LFG probe pairs will be installed, with each pair consisting of one well completed to 20 feet bgs and one well completed to 40 feet bgs, in separate boreholes. Following installation of the gas probes, LFG samples will be collected for field analysis of gas monitoring parameters for a total of ten initial LFG samples. This task also includes monthly monitoring of methane, carbon dioxide and oxygen in LFG for two additional months.

Feasibility Study Approach

The FS will be completed in accordance with the requirements of MTCA, WAC 173-340-350(8), to develop and evaluate cleanup action alternatives to enable a cleanup action to be selected for the site. The FS process includes establishing remedial action objectives and cleanup standards that are protective of human health and the environment, and identification of at least three cleanup alternatives, including one permanent alternative, for detailed evaluation. The cleanup alternatives will be evaluated against the threshold criteria, which include protection of human health and the environment, compliance with cleanup standards and applicable state and federal laws, as well as the other MTCA criteria pertaining to protectiveness, effectiveness, permanence, implementability, cost, and consideration of public concerns to facilitate selection of a preferred remedy. The preferred remedy will be identified based on these evaluations and the FS will include a discussion of the rationale behind the selection and how the preferred remedy meets the requirements of MTCA.

Limitations

Work for this project was performed for the City of Shelton (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Attachments:

Table 1 – Groundwater Geochemistry and Metals Data
Table 2 – Groundwater Data for TPH, SVOCs and VOCs
Table 3 – Groundwater Data for Dioxins/Furans, PCBs, Pesticides and Herbicides
Table 4 – Gas Monitoring Data
Figure 1 – Proposed Temporary Soil Gas Probe Locations
Attachment A – Surface Soil Characterization Data

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TABLES

Table 1. Groundwater Geochemistry and Metals Data

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

	Sample Location	AMW-1	AMW-1	AMW-2	AMW-3	AMW-4
	Date	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
	Sample Name	AMW-1-011218	AMW-5-011218	AMW-2-011218	AMW-3-011218	AMW-4-011218
Analyte (by group)	**Proposed Site Screening Level**		**(Field duplicate)**			
Field Parameters						
Temperature (deg C)	--	10.1	10.1	10.1	10.3	10.3
Specific Conductance (uS/cm)	--	219.8	219.8	232.6	252.2	730
Dissolved Oxygen (mg/L)	--	2.67	2.67	0.26	6.25	2.52
pH	--	6.81	6.81	6.91	7.07	6.87
Oxidation Reduction Potential (mV)	--	106.6	106.6	41.2	146.7	191.4
Turbidity (NTU)	--	2.73	2.73	1.47	3.89	130
Geochemical Indicator Parameters (mg/L)						
Alkalinity, Total	--	**112**	**110**	**114**	**138**	**375**
Ammonia as Nitrogen	--	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Chloride	250	**2.28**	**2.28**	**2.10**	**1.91**	**5.46**
Cyanide (total)	0.0096	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
Dissolved Organic Carbon	--	**18.1**	**17.0**	**21.6**	**15.3**	**54.4**
Nitrate as Nitrogen	10	0.200 UJ	0.200 UJ	0.500 UJ	**0.858 J**	**1.39 J**
Nitrite as Nitrogen	1	0.200 UJ	0.200 UJ	0.500 UJ	0.100 UJ	1.00 UJ
Sulfate	250	**17.4**	**17.3**	**14.9**	**14.0**	**55.7**
Sulfide	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dissolved Metals (ug/L)						
Arsenic	0.2	0.2 U	0.2 U	**0.291**	0.2 U	**0.24**
Barium	2000	**3.98**	**4.05**	**4.65**	**2.4**	**25.3**
Cadmium	5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	--	**30300**	**31200**	**31700**	**30500**	**67400**
Chromium	100	**0.699**	**0.744**	**0.909**	**0.86**	**1.72**
Copper	640	**0.67**	**0.651**	**1.72**	**0.883**	**2.98**
Iron	300	**114**	**111**	**463**	**128**	**235**
Lead	15	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Magnesium	--	**12400**	**12000**	**13900**	**17700**	**22000**
Manganese	50	**58.1**	**58.6**	**1140**	**132**	**307**
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	**1.63**	**1.64**	**1.73**	**1.06**	**3.45**
Selenium	50	0.5 U	0.5 U	0.5 U	0.5 U	**0.728**
Silver	80	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	**4940**	**4940**	**5330**	**3870**	**76000**
Zinc	4800	4 U	4 U	4 U	4 U	4 U
Total Metals (ug/L)						
Arsenic	0.2	0.2 U	0.2 U	**0.31**	0.2 U	**0.665**
Barium	2000	**4.69**	**4.66**	**5.05**	**2.86**	**42.7**
Cadmium	5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	--	**30600**	**30100**	**30900**	**29800**	**75000**
Chromium	100	**0.933**	**0.952**	**1.17**	**1.06**	**7.35**
Copper	640	**1.08**	**1.06**	**2.26**	**1.08**	**9.27**
Iron	300	**233**	**234**	**566**	**241**	**3250**
Lead	15	0.1 U	0.1 U	0.1 U	0.1 U	**0.334**
Magnesium	--	**12100**	**12400**	**13300**	**16900**	**23300**
Manganese	50	**71.4**	**68.3**	**1250**	**130**	**402**
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	**1.86**	**1.93**	**1.82**	**1.17**	**7.61**
Selenium	50	0.5 U	0.5 U	0.5 U	0.5 U	**0.916**
Silver	80	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	**4820**	**4510**	**4600**	**3730**	**73300**
Zinc	4800	4 U	4 U	4 U	4 U	**5.46**

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level

*Field duplicate of AMW-1-011218

"--" indicates not established or not applicable

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

X = the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

mg/L = miligrams per liter

ug/L = micrograms per liter

deg C = degrees Celsius

uS/cm = microSiemens per centimeter

mV = millivolts

NTU = Nephelometric Turbidity Units

Table 2. Groundwater Data for TPH, SVOCs and VOCs

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

Analyte (by group)	Sample Location Date Sample Name Proposed Site Screening Level	AMW-1 01/12/2018 AMW-1-011218	AMW-1 01/12/2018 AMW-5-011218 (Field duplicate)	AMW-2 01/12/2018 AMW-2-011218	AMW-3 01/12/2018 AMW-3-011218	AMW-4 01/12/2018 AMW-4-011218
Total Petroleum Hydrocarbons (ug/L)						
Gasoline Range Organics	1000	100 U	100 U	100 U	100 U	100 U
Diesel Range Organics	500	50 U	50 U	50 U	50 U	**60 X**
Motor Oil Range Organics	500	250 U	250 U	250 U	250 U	250 U
Benzene, Toluene, Ethylbenzene and Xyelens (ug/L)						
Benzene	0.8	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	640	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	700	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Total Xylenes	1600	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (ug/L)						
1-Methylnaphthalene	1.51	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylnaphthalene	32	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthene	960	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	4800	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benz(a)anthracene	0.12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.012	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(g,h,i)perylene	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	1.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.012	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	640	0.01 U	0.01 U	**0.014**	0.01 U	**0.01**
Fluorene	640	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene	0.12	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	160	**0.036**	**0.035**	**0.037**	**0.093**	**0.053**
Phenanthrene	--	0.01 U	0.01 U	**0.021**	0.01 U	0.01 U
Pyrene	480	0.01 U	0.01 U	**0.018**	0.01 U	0.01 U
Total cPAHs TEQ (ND = 1/2 RDL)	0.012	nd	nd	nd	nd	nd
Semivolatile Organic Compounds (ug/L)						
2,4,5-Trichlorophenol	800	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4-Dichlorophenol	24	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4-Dimethylphenol	160	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4-Dinitrophenol	32	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
2,4-Dinitrotoluene	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,6-Dinitrotoluene	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Chloronaphthalene	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Chlorophenol	40	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Methylphenol	400	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitroaniline	160	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Nitrophenol	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
3 & 4 Methylphenol	--	1 U	1 U	1 U	1 U	1 U
3-Nitroaniline	--	5 U	5 U	5 U	5 U	5 U
4,6-Dinitro-2-methylphenol	--	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
4-Bromophenyl phenyl ether	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Chloro-3-methylphenol	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chloroaniline	--	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl phenyl ether	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Nitroaniline	--	5 U	5 U	5 U	5 U	5 U
4-Nitrophenol	--	0.748 UJ	0.749 UJ	0.749 UJ	0.749 UJ	0.749 UJ
Benzoic acid	64000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzyl alcohol	800	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzyl butyl phthalate	46	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bis(2-chloro-1-methylethyl) ether	--	**0.05 J**	**0.052 J**	**0.061 J**	**0.053 J**	0.05 U
Bis(2-chloroethoxy)methane	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bis(2-chloroethyl) ether	1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bis(2-ethylhexyl) phthalate	6	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Carbazole	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibenzofuran	16	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Diethyl phthalate	12800	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dimethyl phthalate	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Di-n-butyl phthalate	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Di-n-octyl phthalate	160	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobenzene	0.0547	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.56	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorocyclopentadiene	48	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Hexachloroethane	1.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isophorone	46	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrobenzene	16	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
N-Nitroso-di-n-propylamine	1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
N-Nitrosodiphenylamine	17.9	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Pentachlorophenol	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Phenol	2400	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Volatile Organic Compounds (ug/L)						
1,1,1,2-Tetrachloroethane	1.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,1-Trichloroethane	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Table 2. Groundwater Data for TPH, SVOCs and VOCs

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

Sample Location Date Sample Name Analyte (by group)	Proposed Site Screening Level	AMW-1 01/12/2018 AMW-1-011218	AMW-1 01/12/2018 AMW-5-011218 (Field duplicate)	AMW-2 01/12/2018 AMW-2-011218	AMW-3 01/12/2018 AMW-3-011218	AMW-4 01/12/2018 AMW-4-011218
1,1,2,2-Tetrachloroethane	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	0.77	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	7.68	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloropropene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichloropropane	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	1.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2,4-Trimethylbenzene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane (EDB)	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	600	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane (EDC)	0.48	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-Trimethylbenzene	80	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,3-Dichloropropane	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	8.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,2-Dichloropropane	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	4800	2 U	2 U	2 U	2 U	2 U
2-Chlorotoluene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Hexanone	--	2 U	2 U	2 U	2 U	2 U
4-Chlorotoluene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Methyl-2-pentanone	640	2 U	2 U	2 U	2 U	2 U
Acetone	7200	50 U	50 U	50 U	50 U	50 U
Bromobenzene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.71	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromoform	5.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	11.2	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	0.63	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroethane	--	1 U	1 U	1 U	1 U	1 U
Chloroform	1.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene (DCE)	16	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloromethane	0.52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromomethane	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	--	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	800	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylenes	1600	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Methyl tert-butyl ether (MTBE)	24.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	--	1 U	1 U	1 U	1 U	1 U
n-Hexane	--	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	800	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
o-Xylene	1600	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
p-Isopropyltoluene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
sec-Butylbenzene	800	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Styrene	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
tert-Butylbenzene	800	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene (PCE)	5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene (TCE)	0.54	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	2400	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl Chloride	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level.

*Field duplicate of AMW-1-011218

"--" indicates not established or not applicable

nd = non-detect

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

X = the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

ug/L = micrograms per liter

Table 3. Groundwater Data for Dioxins/Furans, PCBs, Pesticides and Herbicides

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

	Sample Location	AMW-1	AMW-1	AMW-2	AMW-3	AMW-4
	Date	01/12/2018	01/12/2018	01/12/2018	01/12/2018	01/12/2018
	Sample Name	AMW-1-011218	AMW-5-011218	AMW-2-011218	AMW-3-011218	AMW-4-011218
Analyte (by group)	**Proposed Site Screening Level**		**(Field duplicate)**			
Dioxins/Furans (pg/L)						
Chlorinated di-benzo-p-dioxins (CDDs)						
2,3,7,8-TCDD	30	0.510 U	0.795 U	0.692 U	0.665 U	0.585 U
1,2,3,7,8-PeCDD	--	1.02 U	1.36 U	1.64 U	0.959 U	1.07 U
1,2,3,4,7,8-HxCDD	--	1.36 U	1.90 U	1.87 U	2.06 U	2.03 U
1,2,3,6,7,8-HxCDD	--	1.45 U	1.93 U	1.88 U	2.00 U	1.92 U
1,2,3,7,8,9-HxCDD	--	1.36 U	1.85 U	1.82 U	1.97 U	1.91 U
1,2,3,4,6,7,8-HpCDD	--	2.29 U	2.62 U	3.18 U	2.62 U	**2.08 J**
OCDD	--	5.81 U	5.81 U	**22.2 J**	4.61 U	**15.5 J**
Dioxin TEQ (ND = 1/2 RDL)	30	nd	nd	**18.88**	nd	**18.78**
Chlorinated Dibenzofurans (CDFs)						
2,3,7,8-TCDF	--	0.499 U	0.883 U	0.856 U	0.704 U	0.643 U
1,2,3,7,8,9-HxCDF	--	1.14 U	1.21 U	1.71 U	1.20 U	1.44 U
1,2,3,7,8-PeCDF	--	0.656 U	1.06 U	0.781 U	0.899 U	1.21 U
2,3,4,6,7,8-HxCDF	--	0.873 U	0.901 U	1.41 U	0.901 U	1.10 U
2,3,4,7,8-PeCDF	--	0.688 U	1.04 U	0.842 U	0.903 U	1.23 U
1,2,3,4,6,7,8-HpCDF	--	0.929 U	1.43 U	1.52 U	1.26 U	0.860 U
1,2,3,4,7,8,9-HpCDF	--	1.23 U	1.92 U	2.16 U	1.78 U	1.18 U
1,2,3,4,7,8-HxCDF	--	0.819 U	0.827 U	1.23 U	0.810 U	0.989 U
1,2,3,6,7,8-HxCDF	--	0.845 U	0.867 U	1.24 U	0.825 U	1.04 U
OCDF	--	1.48 U	2.29 U	3.22 U	2.14 U	2.63 U
Furan TEQ (ND = 1/2 RDL)	30	nd	nd	nd	nd	nd
Polychlorinated Biphenyls (ug/L)						
Aroclor 1016	1.1	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1221	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1232	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1242	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1248	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1254	0.044	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1260	0.044	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1262	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aroclor 1268	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Total PCBs (Sum of Aroclors)	0.044	nd	nd	nd	nd	nd
Organochlorine Pesticides (ug/L)						
4,4'-DDD	0.365	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
4,4'-DDE	0.257	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
4,4'-DDT	0.257	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Aldrin	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Alpha-BHC	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Beta-BHC	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
cis-Chlordane	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Delta-BHC	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Dieldrin	0.0055	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Endosulfan I	96	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Endosulfan II	96	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endosulfan Sulfate	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Endrin	2	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Endrin Aldehyde	--	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endrin ketone	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Heptachlor	0.0194	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Heptachlor Epoxide	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Lindane	0.0795	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Methoxychlor	40	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Toxaphene	0.0795	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-Chlordane	0.25	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chlorinated Herbicides (ug/L)						
3,5-Dichlorobenzoic acid	--	4.99 U	5.00 U	4.99 U	4.99 U	5.00 U
Acifluorfen	--	4.24 U	4.25 U	4.24 U	4.25 U	4.25 U
Bentazone	--	2.69 U	2.70 U	2.70 U	2.70 U	2.70 U
Chloramben	--	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
Chlorthal-dimethyl	--	0.848 U	0.849 U	0.849 U	0.849 U	0.849 U
Picloram	--	0.499 U	0.500 U	0.499 U	0.499 U	0.500 U
2,4,5-T	--	0.997 U	0.999 U	0.998 U	0.999 U	0.999 U
2,4-D	--	1.99 U	2.00 U	2.00 U	2.00 U	2.00 U
2,4-DB	128	2.99 U	3.00 U	2.99 U	3.00 U	3.00 U
Dalapon	200	3.99 UJ	4.00 UJ	3.99 UJ	4.00 UJ	4.00 UJ
Dicamba	480	4.49 U	4.50 U	4.49 U	4.49 U	4.50 U
Dichloroprop	--	0.997 U	0.999 U	0.998 U	0.999 U	0.999 U
Dinoseb	7	3.74 U	3.75 U	3.74 U	3.75 U	3.75 U
MCPA	--	9.97 U	9.99 U	9.98 U	9.99 U	9.99 U
MCPP	--	9.97 U	9.99 U	9.98 U	9.99 U	9.99 U
Silvex	50	0.598 U	0.600 U	0.599 U	0.599 U	0.599 U

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level.

*Field duplicate of AMW-1-011218

"--" indicates not established or not applicable

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

X = the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

TCDD = tetrachloro dibenzo-p-dioxin

PeCDD = entachloro dibenzo-p-dioxin

HxCDD = hexachloro dibenzo-p-dioxin

HpCDD = heptachloro dibenzo-p-dioxin

OCDD = octachloro dibenzo-p-dioxin

TCDF = tetrachloro dibenzofuran

PeCDF = pentachloro dibenzofuran

HxCDF = hexachlorodibenzofuran

HpCDF = heptachloro dibenzofuran

OCDF = octachlorodibenzofuran

ug/L = micrograms per liter

Table 4. Gas Monitoring Data

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

Sample Location	Depth	Methane (%)		Carbon Dioxide (%)		Oxygen (%)		Carbon Monoxide (ppm)		Hydrogen Sulfide (ppm)	
	(feet bgs)	Casing	Ambient	Casing	Ambient	Casing	Ambient	Casing	Ambient	Casing	Ambient
AMW-1	Surface	na	1.1	na	1.3	na	19.3	na	0	na	0
	5	0	0	0.2	0.1	20.4	20.4	0	0	0	0
	10	0	0	0.1	0.1	20.4	20.4	0	0	0	0
	15	0	0	0.4	0.1	20.9	21.3	5	0	1	0
	20	0	0	0.4	0.1	21.1	21.3	3	1	1	0
	25	0	0	0.1	0.1	21.4	21.4	1	0	0	0
	30	0	0	1.4	0.1	20.5	21.8	1	0	0	0
	35	0	0	0.1	0.1	21.9	22	1	0	0	0
	40	0	0	1.5	0.1	20.5	22.2	0	0	0	0
	45	0	0	1.7	0.1	20.2	22.3	0	0	0	0
	50	0	0	2	0.1	20	22.6	0	0	0	0
	55	0	0	0.1	0.1	22.7	22.7	0	0	0	0
	60	0	0	0.2	0.1	22.1	22.1	0	0	0	0
	65	0	0	3.3	0.2	17.7	22.3	0	0	0	0
	70	0	0	3.9	0.2	16.4	22.2	1	0	0	0
	75	0	0	5.2	0.2	13.6	22.2	0	0	0	0
	80	0	0	5.5	0.1	13	22.1	0	0	0	0
	85	0	0	5.4	0.1	13.3	22.1	0	0	0	0
	90	0	0	0.2	0.1	21.3	21.5	0	0	0	0
	95	0	0	0.1	0.1	21.6	21.7	1	1	0	0
	105	0	0	0.1	0.1	22.4	22.4	0	0	0	0
AMW-2	5	0	0	0.7	0.1	20.8	21.5	2	0	0	0
	10	0	0	0.4	0.1	21.1	21.4	1	0	0	0
	15	0	0	0.1	0.1	21.5	21.5	0	0	0	0
	20	0	0	0.1	0.1	21.8	21.8	0	0	0	0
	25	0	0	0.8	0.1	21.6	21.9	0	0	0	0
	30	0	0	2.8	0.1	16.6	21.9	0	0	0	0
	35	0	0	3	0.1	16.2	21.9	1	0	0	0
	40	0	0	3.1	0.1	15.8	21.7	0	0	0	0
	45	0	0	3.4	0.1	16.1	21.9	0	0	0	0
	50	0	0	3.3	0.1	16.3	21.9	0	0	0	0
	55	0	0	0.5	0.1	20.4	22.1	10	0	1	0
	60	0	0	3.8	0.1	15.1	21.9	0	0	0	0
	65	0	0	0.1	0.1	21.8	21.8	0	0	0	0
	70	0	0	0.1	0.1	21.9	21.9	0	0	0	0
	75	0	0	0.2	0.2	22	22.1	0	0	0	0
	80	0	0	0.1	0.2	22.1	22.1	0	0	0	0
	85	0	0	0.2	0.1	21.8	21.8	0	0	0	0
	90	0	0	0.1	0.1	21.7	21.7	0	0	0	0
	95	0	0	0.1	0.1	21.9	21.9	0	0	0	0
	105	0	0	0.1	0.1	22	22	0	0	0	0
AMW-3	10	0	0	0.2	0.1	22.1	22.3	10	0	0	0
	20	0	0	0.2	0.1	22.6	22.8	1	0	0	0
	30	0	0	1.2	0.2	21.9	22.8	0	0	0	0
	40	0	0	2.2	0.2	20.8	22.6	0	0	0	0
	50	0	0	0.2	0.1	22.8	22.8	0	0	0	0
	60	0	0	1.2	0.2	21.4	22.4	0	0	0	0
	70	0	0	2.2	0.2	21.8	22.2	0	0	0	0
	80	0	0	2.9	0.1	19.3	21.4	0	0	0	0
	90	0	0	3.5	0.2	18.7	22.1	0	0	0	0
	95	0	0	3.8	0.2	18.4	21.9	0	0	0	0
	100	0	0	4.1	0.2	18.3	22.2	0	0	0	0
	105	0	0	4.1	0.2	18.3	21.9	0	0	0	0
	115	0	0	0.1	0.1	22.1	22.1	0	0	0	0
	120	0	0	0.1	0.1	22.1	22.1	0	0	0	0
AMW-4	5	0.2	0	0.8	0.1	18.2	21.8	1	0	0	0
	10	0	0	0.2	0.1	20.9	21.2	1	0	0	0
	15	0.2	0	1.2	0.1	16	21.3	4	0	0	0
	20	0	0	6.5	0.1	0.6	21.5	0	0	0	0
	25	0	0	6.5	0.1	0.6	20.5	1	0	0	0
	30	0	0	0.1	0.1	21.3	21.3	0	0	0	0
	35	0	0	0.1	0.1	20.6	20.7	0	0	0	0
	40	0	0	0.1	0.1	20.8	20.8	0	0	0	0
	45	0	0	0.1	0.1	21.4	21.4	0	0	0	0
	50	0	0	0.1	0.1	21.6	21.6	0	0	0	0
	55	0	0	0.1	0.1	21.8	22	0	0	0	0
	60	0	0	0.2	0.1	22	22.3	0	0	0	0
	65	0	0	0.1	0.1	22.6	22.6	0	0	0	0
	70	0	0	0.2	0.1	22.4	22.5	1	0	0	0
	75	0	0	0.2	0.1	22.4	22.4	2	0	0	0
	80	0	0	0.1	0.1	22.2	22.2	0	0	0	0
	85	0	0	0.1	0.1	22.1	22.1	0	0	0	0
	95	0	0	0.1	0.1	22	22	0	0	0	0
	105	0	0	0.2	0.2	21.8	21.8	0	0	0	0

FIGURE

Proposed Temporary Soil Gas Probe
Monitoring Well
Preliminary Estimated Extent of Landfill Waste
1986 Sludge Disposal Area
Landfill Parcel
Forested Area
Transmission Tower
Transmission Line
Access Roads
Asphalt Road
Concrete Block Wall
Gravel Road
Tax Parcel

Note: All site feature locations are approximate. Topographic contours from PLS Survey October 2017. Aerial imagery from DigitalGlobe, June 2017.

Proposed Temporary Soil Gas Probe Locations

Shelton C Street Landfill
Shelton, Washington

Aspect Consulting	SEP-2018	BY: KB / RAP	FIGURE NO. ---
	PROJECT NO. 150074	REVISED BY: ---	

Basemap Layer Credits || Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

GIS Path: T:\projects_8\Shelton C Street Landfill\Delivered\Proposed Temporary Soil Gas Probe Locations.mxd || Coordinate System: NAD 1983 StatePlane Washington South FIPS 4602 Feet || Date Saved: 9/27/2018 || User: mpjin || Print Date: 9/27/2018

ATTACHMENT A

Surface Soil Characterization Data

Table A1. Surface Soil Characterization Data - Dioxins/Furans, PAHs, and Metals

Project No. 150074, City of Shelton, C-Street Landfill, Shelton, WA

		Decision Unit	DU-1	DU-2	DU-3
		Sample Type	ISM	ISM	ISM
		Sample Location	DU-1	DU-2	DU-3
		Sample ID	ISM-DU1-072617	ISM-DU2-072617	ISM-DU3-072517
		Sample Date	7/26/2017	7/26/2017	7/25/2017
Analyte (by group)	**Site-Specific Screening Level**	**Natural Background Concentrations**			
Polycyclic Aromatic Hydrocarbons (PAHs) (mg/kg)					
1-Methylnaphthalene	34	--	< 0.05 U	< 0.05 U	< 0.1 U
2-Methylnaphthalene	320	--	< 0.05 U	< 0.05 U	< 0.1 U
Acenaphthene	20	--	< 0.1 U	< 0.1 U	< 0.01 U
Acenaphthylene	--	--	< 0.1 U	< 0.1 U	< 0.01 U
Anthracene	24000	--	< 0.1 U	< 0.1 U	**0.011**
Benzo(g,h,i)perylene	--	--	**1.7**	**0.59**	**0.39**
Fluoranthene	3200	--	**2.2**	**0.88**	**0.41**
Fluorene	30	--	< 0.1 U	< 0.1 U	< 0.01 U
Naphthalene	1600	--	**0.18**	< 0.1 U	**0.029**
Phenanthrene	--	--	**1**	**0.47**	**0.16**
Pyrene	2400	--	**1.4**	**0.65**	**0.23**
Benz(a)anthracene	1.37	--	**0.42**	**0.22**	**0.13**
Benzo(a)pyrene	0.14	--	**0.61**	**0.29**	**0.22**
Benzo(b)fluoranthene	1.37	--	**2**	**0.74**	**0.54**
Benzo(k)fluoranthene	13.7	--	**0.49**	**0.2**	**0.15**
Chrysene	137	--	**1.1**	**0.46**	**0.31**
Dibenzo(a,h)anthracene	0.14	--	**0.11**	< 0.1 U	**0.04**
Indeno(1,2,3-cd)pyrene	1.37	--	**1.3**	**0.45**	**0.32**
Total cPAHs TEQ (ND = 1/2 RDL)	0.14	--	**1.053**	**0.4606**	**0.3411**
Dioxins/Furans (pg/g)					
Chlorinated dibenzo-p-dixoins (CDDs)					
2,3,7,8-TCDD	2	--	**828**	**234**	**144**
1,2,3,7,8-PeCDD	--	--	**5170**	**1100**	**724**
1,2,3,4,7,8-HxCDD	--	--	**9860**	**2180**	**1480**
1,2,3,6,7,8-HxCDD	--	--	**20800**	**4210**	**2920**
1,2,3,7,8,9-HxCDD	--	--	**16600**	**3370**	**2260**
1,2,3,4,6,7,8-HpCDD	--	--	**145000 ***	**31200**	**22000**
OCDD	--	--	**104000 ***	**21900**	**30200**
Dioxin TEQ	2.2	5.2	**12205**	**2629**	**1763**
Chlorinated Dibenzofurans (CDFs)					
2,3,7,8-TCDF	--	--	**2980 F**	**702 F**	**399 F**
1,2,3,7,8-PeCDF	--	--	**2440**	**580**	**345**
2,3,4,7,8-PeCDF	--	--	**4390**	**730**	**371**
1,2,3,4,7,8-HxCDF	--	--	**1670 ***	**347 D,M,J**	**257 D,M,J**
1,2,3,6,7,8-HxCDF	--	--	**2130 D,M,*,J**	**495 D,M,J**	**330 D,M,J**
1,2,3,7,8,9-HxCDF	--	--	**934 ***	**173**	**114**
2,3,4,6,7,8-HxCDF	--	--	**3040 ***	**576**	**389**
1,2,3,4,6,7,8-HpCDF	--	--	**4240**	**780**	**721**
1,2,3,4,7,8,9-HpCDF	--	--	**1030**	**176**	**141**
OCDF	--	--	**1460**	**404**	**1510**
Furan TEQ	2.2	5.2	**2519**	**475**	**280**
Metals (mg/kg)					
Arsenic	7	7	**4.4**	**1.26**	**2.4**
Barium	102	--	**129**	**66**	**162**
Cadmium	4	0.77	**1.54**	**0.66**	**1.7**
Chromium (total)	48	48	**21.4 J**	**14.5 J**	**25.5 J**
Copper	50	36	**69.5 J**	**36.7 J**	**80.6 J**
Lead	50	24	**182 R**	**69.6**	**182 R**
Mercury	0.1	0.07	**1.15**	**0.938**	**0.812**
Nickel	30	--	**13.2 J**	**11.5 J**	**24.3 J**
Selenium	0.78	0.78	**0.79**	< 0.5 U	**0.54**
Silver	2	0.61	**6.55**	**1.65**	**3.62**
Zinc	86	85	**134 J**	**81.9 J**	**355 J**

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level.

"--" indicates not established or not applicable

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

X = the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

R = the sample results are unusable due to the quality of the data generated because certain criteria were not met.

* = the result is taken from dilution due to high dioxin/furan concentrations in the sample

D = presence of diphenyl ethers

M = maximum possible concentration

mg/kg = milligrams per kilogram

pg/g = picograms per gram

TEQ = Toxicity equivalent quotient. TEQs for total cPAHs and total dioxins/furans were calculated using the methodology and the toxicity equivalency factors (TEFs) prescribed in Washington State Model Toxics Control Act (MTCA) and WAC 173-340-708(8)(e).

TCDD = tetrachloro dibenzo-p-dioxin

PeCDD = entachloro dibenzo-p-dioxin

HxCDD = hexachloro dibenzo-p-dioxin

HpCDD = heptachloro dibenzo-p-dioxin

OCDD = octachloro dibenzo-p-dioxin

TCDF = tetrachloro dibenzofuran

PeCDF = pentachloro dibenzofuran

HxCDF = hexachlorodibenzofuran

HpCDF = heptachloro dibenzofuran

OCDF = octachlorodibenzofuran

Table A2. Surface Soil Characterization Data - TPH, Pesticides/Herbicides, PCBs, and SVOCs

Project No. 150074, City of Shelton, C-Street Landfill
Shelton, WA

	Decision Unit	DU-1	DU-2	DU-3
	Sample Type	ISM	ISM	ISM
	Sample Location	DU-1	DU-2	DU-3
	Sample ID	ISM-DU1-072617	ISM-DU2-072617	ISM-DU3-072517
	Sample Date	7/26/2017	7/26/2017	7/25/2017
Analyte (by group)	**Site-Specific Screening Levels**			
Petroleum Hydrocarbons (mg/kg)				
Gasoline Range Organics	100	< 2 U	< 2 U	**3.5**
Diesel Range Organics	200	< 50 U	< 50 U	< 50 U
Motor Oil Range Organics	2000	< 250 U	< 250 U	< 250 U
Organochlorine Pesticides (mg/kg)				
4,4'-DDD	4.17	< 0.0111 U	< 0.0107 U	< 0.0104 U
4,4'-DDE	2.94	< 0.0111 U	< 0.0107 U	< 0.0104 U
4,4'-DDT	2.94	**0.0163**	**0.013**	**0.0166**
Aldrin	0.0588	< 0.0111 U	< 0.0107 U	< 0.0104 U
Alpha-BHC	6	< 0.0111 U	< 0.0107 U	< 0.0104 U
Beta-BHC	6	< 0.0111 U	< 0.0107 U	< 0.0104 U
cis-Chlordane	1	< 0.0111 U	< 0.0107 U	< 0.0104 U
Delta-BHC	6	< 0.0111 U	< 0.0107 U	< 0.0104 U
Dieldrin	0.1	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endosulfan I	480	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endosulfan II	480	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endosulfan Sulfate	--	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endrin	0.2	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endrin Aldehyde	--	< 0.0111 U	< 0.0107 U	< 0.0104 U
Endrin ketone	--	< 0.0111 U	< 0.0107 U	< 0.0104 U
gamma-Chlordane	--	< 0.0111 U	< 0.0107 U	< 0.0104 U
Heptachlor	0.222	< 0.0111 U	< 0.0107 U	< 0.0104 U
Heptachlor Epoxide	0.11	< 0.0111 U	< 0.0107 U	< 0.0104 U
Lindane (gamma-BHC)	0.909	< 0.0111 U	< 0.0107 U	< 0.0104 U
Methoxychlor	400	< 0.0111 U	< 0.0107 U	< 0.0104 U
Total DDT/DDD/DDE	0.75	**0.0163**	**0.013**	**0.0166**
Toxaphene	0.9	< 0.111 U	< 0.107 U	< 0.104 U
Chlorinated Herbicides (mg/kg)				
2,4,5-T	--	< 56.0 U	< 53.1 U	< 52.0 U
2,4,6-Trichlorophenol	10	< 0.5 U	< 0.5 U	< 1 U
2,4-D	--	< 33.6 U	< 31.9 U	< 31.2 U
2,4-DB	640000	< 28.0 U	< 26.6 U	< 26.0 U
3,5-Dichlorobenzoic acid	--	< 44.8 U	< 42.5 U	< 41.6 U
Acifluorfen	--	< 89.6 U	< 85.0 U	< 83.3 U
Bentazone	--	< 39.2 U	< 37.2 U	< 36.4 U
Chloramben	--	< 22.4 UJ	< 21.3 UJ	< 20.8 UJ
Chlorthal-dimethyl	--	< 33.6 U	< 31.9 U	< 31.2 U
Dalapon	2400000	< 224 U	< 213 U	< 208 U
Dicamba	2400000	< 39.2 U	< 37.2 U	< 36.4 U
Dichloroprop	--	< 28.0 U	< 26.6 U	< 26.0 U
Dinoseb	80000	< 33.6 U	< 31.9 U	< 31.2 U
MCPA	--	< 3140 U	< 2980 U	< 2910 U
MCPP	--	< 4930 U	< 4680 U	< 4580 U
Picloram	--	< 56.0 U	< 53.1 U	< 52.0 U
Silvex (2,4,5-TP)	640000	< 22.4 U	< 21.3 U	< 20.8 U
Polychlorinated Biphenyls (mg/kg)				
Aroclor 1016	5.6	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1221	--	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1232	--	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1242	--	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1248	--	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1254	0.5	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1260	0.5	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1262	--	< 0.2 U	< 0.2 U	< 0.2 U
Aroclor 1268	--	< 0.2 U	< 0.2 U	< 0.2 U
Sum of Aroclors	0.5	< 0.2 U	< 0.2 U	< 0.2 U
Semi-Volatile Organic Compounds (SVOCs) (mg/kg)				
1,2,4-Trichlorobenzene	20	< 0.05 U	< 0.05 U	< 0.1 U
1,2-Dichlorobenzene	7200	< 0.05 U	< 0.05 U	< 0.1 U
1,3-Dichlorobenzene	--	< 0.05 U	< 0.05 U	< 0.1 U
1,4-Dichlorobenzene	20	**0.079**	< 0.05 U	< 0.1 U
2,4,5-Trichlorophenol	4	< 0.5 U	< 0.5 U	< 1 U
2,4-Dichlorophenol	240	< 0.5 U	< 0.5 U	< 1 U
2,4-Dimethylphenol	1600	< 0.5 U	< 0.5 U	< 1 U
2,4-Dinitrophenol	20	< 1.5 U	< 1.5 U	< 3 U
2,4-Dinitrotoluene	3.23	< 0.25 U	< 0.25 U	< 0.5 U
2,6-Dinitrotoluene	0.667	< 0.25 U	< 0.25 U	< 0.5 U
2-Chloronaphthalene	--	< 0.05 U	< 0.05 U	< 0.1 U
2-Chlorophenol	400	< 0.5 U	< 0.5 U	< 1 U
2-Methylphenol	4000	< 0.5 U	< 0.5 U	< 1 U
2-Nitroaniline	800	< 0.25 U	< 0.25 U	< 0.5 U
2-Nitrophenol	--	< 0.5 U	< 0.5 U	< 1 U

Table A2. Surface Soil Characterization Data - TPH, Pesticides/Herbicides, PCBs, and SVOCs

Project No. 150074, City of Shelton, C-Street Landfill
Shelton, WA

	Decision Unit	DU-1	DU-2	DU-3
	Sample Type	ISM	ISM	ISM
	Sample Location	DU-1	DU-2	DU-3
	Sample ID	ISM-DU1-072617	ISM-DU2-072617	ISM-DU3-072517
	Sample Date	7/26/2017	7/26/2017	7/25/2017
Analyte (by group)	**Site-Specific Screening Levels**			
3 & 4 Methylphenol	--	< 1 U	< 1 U	< 2 U
3-Nitroaniline	--	< 5 U	< 5 U	< 10 U
4,6-Dinitro-2-methylphenol	--	< 1.5 U	< 1.5 U	< 3 U
4-Bromophenyl phenyl ether	--	< 0.05 U	< 0.05 U	< 0.1 U
4-Chloro-3-methylphenol	--	< 0.5 U	< 0.5 U	< 1 U
4-Chloroaniline	--	< 5 U	< 5 U	< 10 U
4-Chlorophenyl phenyl ether	--	< 0.05 U	< 0.05 U	< 0.1 U
4-Nitroaniline	--	< 5 U	< 5 U	< 10 U
4-Nitrophenol	--	< 1.5 U	< 1.5 U	< 3 U
4-Nitrophenol	--	< 33.6 UJ	< 31.9 UJ	< 31.2 UJ
Benzoic acid	320000	< 2.5 U	< 2.5 U	< 5 U
Benzyl alcohol	8000	< 0.5 U	< 0.5 U	< 1 U
Benzyl butyl phthalate	526	< 0.5 U	< 0.5 U	< 1 U
Bis(2-chloro-1-methylethyl) ether	--	< 0.05 U	< 0.05 U	< 0.1 U
Bis(2-chloroethoxy)methane	--	< 0.05 U	< 0.05 U	< 0.1 U
Bis(2-chloroethyl) ether	0.91	< 0.05 U	< 0.05 U	< 0.1 U
Bis(2-ethylhexyl) phthalate	71.4	**2.6 J**	< 0.8 U	< 1.6 U
Carbazole	--	< 0.5 U	< 0.5 U	< 1 U
Dibenzofuran	80	**0.12**	< 0.05 U	< 0.1 U
Diethyl phthalate	100	< 0.5 U	< 0.5 U	< 1 U
Dimethyl phthalate	200	< 0.5 U	< 0.5 U	< 1 U
Di-n-butyl phthalate	8000	< 0.5 U	< 0.5 U	< 1 U
Di-n-octyl phthalate	800	< 0.5 U	< 0.5 U	< 1 U
Hexachlorobenzene	0.625	< 0.05 U	< 0.05 U	< 0.1 U
Hexachlorobutadiene	13	< 0.05 U	< 0.05 U	< 0.1 U
Hexachlorocyclopentadiene	10	< 0.15 U	< 0.15 U	< 0.3 U
Hexachloroethane	25	< 0.05 U	< 0.05 U	< 0.1 U
Isophorone	1053	< 0.05 U	< 0.05 U	< 0.1 U
Nitrobenzene	40	< 0.05 U	< 0.05 U	< 0.1 U
N-Nitroso-di-n-propylamine	0.14	< 0.05 U	< 0.05 U	< 0.1 U
N-Nitrosodiphenylamine	20	< 0.05 U	< 0.05 U	< 0.1 U
Pentachlorophenol	2.5	< 0.5 U	< 0.5 U	< 1 U
Phenol	30	< 0.5 U	< 0.5 U	< 1 U

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level.

"--" indicates not established or not applicable

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

mg/kg = milligrams per kilogram

Table A3. Surface Soil Characterization Data - VOCs

Project No.150074, City of Shelton, C-Street Landfill
Shelton, WA

	Decision Unit	DU-1			DU-2		DU-3	
	Sample Type	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete	Discrete
	Sample Location	DU1-H3	DU1-G7	DU1-C2	DU2-L2	DU2-L7	DU3-P3	DU3-P7
	Sample ID	DU2-G2-072617^	DU2-G7-072617^	DU2-C2-072617^	DU2-L2-072617	DU2-L7-072617	DU3-P3-072617	DU3-P7-072617
	Sample Date	7/26/2017	7/26/2017	7/26/2017	7/26/2017	7/26/2017	7/26/2017	7/26/2017
Analyte (by group)	**Site-Specific Screening Levels**							
Petroleum Hydrocarbons (mg/kg)								
Gasoline Range Organics	100	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Volatile Organic Compounds (VOCs) (mg/kg)								
1,1,1,2-Tetrachloroethane	38	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	160000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2,2-Tetrachloroethane	5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	18	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	175	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethene	4000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloropropene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	--	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	0.03	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	20	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	1.3	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	0.5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichlorobenzene	7200	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	11	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloropropane	28	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	800	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	20	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	48000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
2-Chlorotoluene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Hexanone	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
4-Chlorotoluene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	6400	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Acetone	72000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Benzene	18.2	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Bromobenzene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromodichloromethane	16.1	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	127	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	112	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	14	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	40	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Chloroform	32	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene (DCE)	160	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
cis-1,3-Dichloropropene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	11.9	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Ethylbenzene	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Hexachlorobutadiene	13	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
Isopropylbenzene	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
m,p-Xylenes	16000	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Methyl tert-butyl ether (MTBE)	556	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Methylene Chloride	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Naphthalene	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
n-Hexane	--	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
o-Xylene	16000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	300	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Tetrachloroethene (PCE)	476	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U
Toluene	200	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.059**	< 0.05 U
Total Xylenes	16000	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
trans-1,2-Dichloroethene	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Trichloroethene (TCE)	12	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U
Trichlorofluoromethane	24000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vinyl Chloride	0.67	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

Notes:

Bold indicates a detected concentration

Gray shading indicates a concentration that exceeds the Site-Specific Screening Level.

^Sample IDs for these samples were mispelled on the chain of custody and lab report dated September 8, 2017 and do not correlate with the actual sample location names indicated in this table and on the attached Figure 1.

"--" indicates not established or not applicable

U = the analyte was analyzed for, but was considered not detected at the reporting limit or reported value.

J = the analyte was detected above the reported quantitation limit, and the reported concentration was an estimated value.

UJ = the analyte was analyzed for, and the associated quantitation limit was an estimated value.

mg/kg = milligrams per kilogram